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10/564,226

05/31/2006

Franz Thoemmes

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05/19/2008

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EXAMINER

BOECKMANN, JASON J

ART UNIT

PAPER NUMBER

3752

MAIL DATE

DELIVERY MODE

05/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------------|--|--|
| Office Action Summary | Application No. 10/564,226 | Applicant(s) THOEMMES, FRANZ | |
| | Examiner Jason J. Boeckmann | Art Unit 3752 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,10,14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,10,14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/10/2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

It appears that the applicant submitted a new drawing sheet that is identical to that drawing sheet as originally filled, however, the newly submitted drawing sheet can not be found in the amendment filled on 1/14/2008. The examiner is basing the below objection of the original drawing sheet of 1/10/2006. These drawings are not acceptable.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the thickness of the valve sleeve varying across its axial direction and decreasing in a discharge direction of the fuel, of claim 8, and the inflow side region of the valve sleeve being formed in one piece with the supply pipe of claim 8, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 8, 10 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Kobayashi et al. (US 2002/0185555).

Kobayashi et al. shows a fuel injector (1) comprising; a valve needle (7a) an armature (7c) forming an axially movable valve port together with the valve needle, a restoring spring (9) acting upon the armature, a magnetic coil (11) cooperating with the armature, a valve-seat body (5b), a valve closure member (7b) which forms a sealing seat with the valve seat body and; a valve sleeve (22B1, 22A) surrounding the armature and the valve needle, a wall thickness of the valve sleeve varying across its axial

direction (fig 9), wherein the wall the wall thickness of the valve sleeve decreases in a discharge direction of a fuel (figure 9), wherein a radial cross section of the valve sleeve decreases between an inflow-side region and a discharge-side region on a color (figure 9), wherein the radial cross section and the wall thickness of the inflow-side region are constant from the collar to an inflow-side end of the valve sleeve (figure 9); wherein the decreased radial cross section and decreased wall thickness of the discharge-side region are constant form the collar to a discharge-side end of the valve sleeve (see examiners marked up figure of figure 9), and wherein the inflow side region of the valve sleeve is formed in one piece with a supply pipe (see examiners marked up figure 9).

It is noted that the term "in order to limit noises emissions," of line 13, is being considered a functional limitation and is given little or no patentable weight in an apparatus claim.

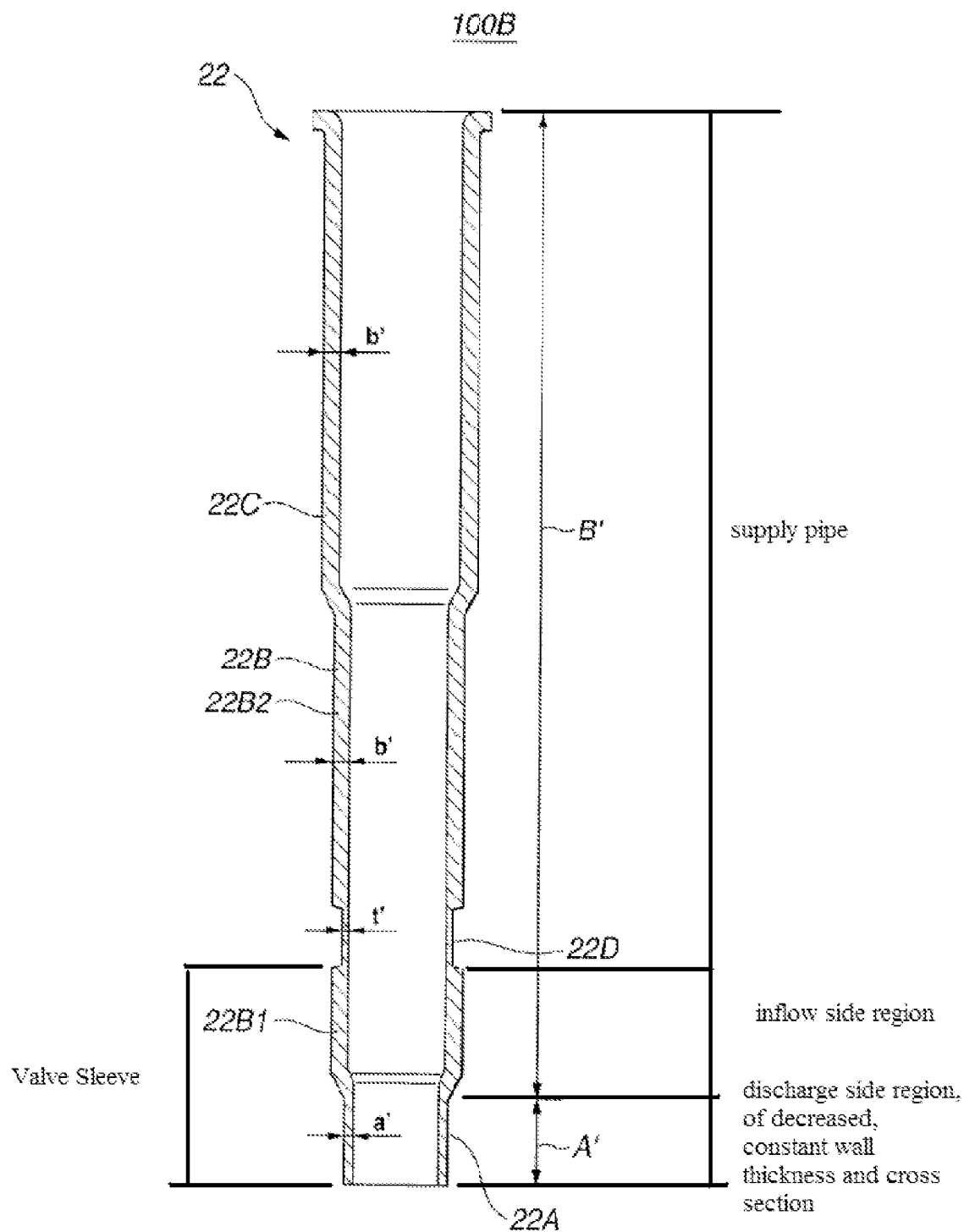
Additionally, as to the recited process of forming the valve sleeve in one piece with a supply pipe, such is a product by process recitation. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious variant from a product in the prior art, the claim is unpatentable even though the prior product was made by a different process (see MPEP 2113).

Regarding claim 10, the thickness of the valve sleeve is about .3 to .6 mm in an inflow-side region (paragraph 0038).

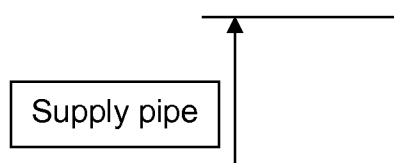
Regarding claim 14, the thickness of the valve sleeve is about .2 to .5 mm in a discharge-side region (paragraph 0035).

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Regarding claim 15, the fuel injector includes an intake pipe (8) that extends beyond the valve sleeve.



Examines Marked up Figure 9



Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (US 2002/0185555).

Kobayashi et al. shows all aspects of the applicant's invention as in the rejection of claim 15 above, including a filter (4), but does not specifically disclose that the filter is pressed into the valve sleeve. However, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to relocate the filter to be inserted, or pressed into the valve sleeve, since it has been held that rearranging parts of an invention involves only routine skill in the art.

Response to Arguments

Applicant's arguments with respect to claims 8, 10 and 14-16 have been considered but are moot in view of the modified rejection above.

Regarding the applicant's arguments towards the drawing objection, the MPEP states that "The drawing in a nonprovisional application must show every feature of the

invention specified in the claims.” 37 CFR 1.83(a). The thickness of the valve sleeve varying across its axial direction and decreasing in a discharge direction of the fuel, of claim 8, and the inflow side region of the valve sleeve being formed in one piece with the supply pipe of claim 8, are both features specified in the claims and therefore must be shown in the drawings.

Regarding the applicant's remarks towards the rejection of claim 8, it is noted that the location of the “inflow-side of the valve sleeve,” is not specifically claimed, the examiner is considering the inflow-side end of the valve sleeve to be everything below the indent 22D to the lower collar shown in the marked up figure 9 shown above. Therefore, the valve sleeve has a constant wall thickness and cross-sectional area from the collar to the discharge-side end of the valve sleeve, and the collar to the inflow-side end of the valve sleeve.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason J. Boeckmann whose telephone number is (571)272-2708. The examiner can normally be reached on 8:00- 5:00, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. J. B./

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Examiner, Art Unit 3752

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/Len Tran/

Supervisory Patent Examiner, Art Unit 3752